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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,637	02/24/2004	Leon Lumelsky	RE2000-03B	3746

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EXAMINER

VU, MICHAEL T

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 10/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/785,637	Applicant(s) LUMELSKY, LEON	
	Examiner Michael Vu	Art Unit 2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-32, 57-63 and 77-81 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 25-32, 57-63 and 77-81 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06/16/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 25-32, 57-63, and 77-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasai (US 2004/0247023) in further view of Maeki (US 2003/0228857).

Regarding **claims 25, 57, and 77**, Sasai teaches a method for dynamically tuning a directional antenna of a wireless device for communicating with an access point in a short-range wireless networking environment (Abstract, [0084, 0146]), **but is silent on** comprising the steps of: providing at least one wireless device; providing at least one access point; establishing a network link between a selected one of the

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wireless devices and a selected one of the access points using the directional antenna of the selected wireless device and an omnidirectional antenna of the selected access point; and setting a position of the directional antenna to minimize a bit error rate along the established link. However, Maeki teaches the smart antenna that provides at least one access point including directional/omni-directional antenna to minimize a bit error rate (BER), (Abstract, Fig. 7 to Fig. 12, [0003, 0013, 0061, 0064, 0110-0111]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasai, such that comprising the steps of: providing at least one wireless device; providing at least one access point; establishing a network link between a selected one of the wireless devices and a selected one of the access points using the directional antenna of the selected wireless device and an omnidirectional antenna of the selected access point; and setting a position of the directional antenna to minimize a bit error rate along the established link, to provide antenna systems which help reduce the power consumption without a loss of performance and increase the system capacity, and increasing demand the flexibility of portable devices.

Regarding **claims 26, 58, and 78**, Sasai teaches the method according to claim 25, **but is silent on** wherein the step of setting the position of the directional antenna further comprises the steps of: positioning the directional antenna at a plurality of angles toward the omnidirectional antenna; recording the bit error rate at each of the angles; and selecting one of the angles which exhibits a minimal value of the bit error rate to be the position of the directional antenna. However, Maeki teaches a fixed-wireless smart

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antenna which control of the transmission power of the communicating device to maintain performance of quality, which measures the power of the received signal, calculates the bit error rate (BER), communication baud and SNR (RSSI) Received Signal Strength Indication of the received signal, and then stores the results and linking information in the MEMORY (Abstract, Fig. 7 to Fig. 12, [0003, 0013, 0061, 0064, 0110-0111]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasai, such that wherein the step of setting the position of the directional antenna further comprises the steps of: positioning the directional antenna at a plurality of angles toward the omnidirectional antenna; recording the bit error rate at each of the angles; and selecting one of the angles which exhibits a minimal value of the bit error rate to be the position of the directional antenna, to provide antenna systems which help reduce the power consumption without a loss of performance and increase the system capacity, and increasing demand the flexibility of portable devices.

Regarding **claims 27, 59, and 79**, Sasai teaches the method according to claim 26, **but is silent on** wherein the plurality of angles are selected by first locating an initial position beyond which communication using the directional antenna is not possible. However, Maeki teaches teaches a fixed-wireless smart antenna which control of the transmission power of the communicating device to maintain performance of quality, which included multiple/plurality direction antenna (Abstract, Fig. 2, [0095, 0110]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasai, such that wherein the plurality of angles are selected by first locating an initial position beyond which communication using the directional antenna is not possible, to provide an alternate performance when there are more than two antennas available.

Regarding **claims 28, 60**, Sasai teaches the method according to claim 25, **but is silent on** further comprising the step of setting a power of transmission of the directional antenna to a minimum value required to communicate on the established link. However, Maeki teaches the control of the transmission power of the communicating device to maintain performance or quality; channel selection to minimize collision in the transmission; switching to the another antenna; change the data rate; and change the modulation scheme (Abstract, [0034, 0036-0037]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasai, such that further comprising the step of setting a power of transmission of the directional antenna to a minimum value required to communicate on the established link, to provide the best performance and to save the power.

Regarding **claims 29, 61, and 80**, Sasai teaches the method according to claim 28, **but is silent on** wherein the step of setting the power of transmission of the directional antenna further comprises the steps of: setting the power of transmission to a default value (Fig. 2, [0036]); recording a bit error rate at the default value (Fig. 2, [0062-0063, 0069]); successively reducing the power of transmission until connectivity

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is lost or the bit error rate crosses a threshold (Fig. 2, Fig. 12, [0002, 0021, 0036]); and setting the power of transmission to be a value that results in the bit error rate staying below the threshold (Abstract, Fig. 2, Fig. 12, [0029, 0087]). However, Maeki teaches the control of the transmission power of the communicating device to maintain performance or quality, including those features above.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasai, wherein the step of setting the power of transmission of the directional antenna further comprises the steps of: setting the power of transmission to a default value; recording a bit error rate at the default value; successively reducing the power of transmission until connectivity is lost or the bit error rate crosses a threshold; and setting the power of transmission to be a value that results in the bit error rate staying below the threshold such that to provide antenna systems which help reduce the power consumption without a loss of performance and increase the system capacity.

Regarding **claims 30, 62, and 81**, Sasai teaches the method according to claim 29, **but is silent on** wherein the threshold is a maximum acceptable value for the bit error rate. However, Maeki teaches the control of the transmission power of the communicating device to maintain performance or quality, which included the threshold is a maximum acceptable value for the bit error rate (Fig. 2, Fig. 12, [0008, 0036]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasai, such that wherein the threshold is a

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maximum acceptable value for the bit error rate, to provide an increasing the power to be set t incremental increase until a certain threshold value.

Regarding **claims 31**, Sasai teaches the method according to claim 25, **but is silent on** wherein the selected wireless device is an extension point device. However, However, Maeki teaches the control of the transmission power of the communicating device to maintain performance or quality, including extension point device/switch/routing (Abstract, [0080], Fig. 3, [0117], and claim 4 reads on).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sasai, such that wherein the selected wireless device is an extension point device, to provide the best performance and demands the flexibility of portable devices such as laptop/PDA etc.

Regarding **claim 32, 63**, Sasai teaches the method according to claim 25, and further teaches wherein the selected wireless device is an end-user device (Fig. 1 to Fig. 30).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sasai US 2004/0247023

Maeki US 2003/0228857

Adachi US 2003/0064752

Bolgiano US 2005/0185627

Bolgiano US 6,842,444

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Liang US 2004/0204105

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Vu whose telephone number is (571) 272-8131.

The examiner can normally be reached on 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael T. Vu

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Michael Vu

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